

MECP Expert Installation Technician Job Description – 2021-2022



Position Summary - MECP Expert Installation Technician

The MECP Expert Installation Technician position presumes the ability to install and configure aftermarket car electronics products in a wide range of vehicles without process-related supervision carefully and correctly. The technician in this job is often placed in a leadership or supervisory role for other technicians. The position also requires a direct interface with customers before, during, and after the installation and maintaining a clean and functional workshop environment. The MECP Expert Installation Technician position assumes a high degree of expertise for diagnosing and repairing installation-related faults that may involve aftermarket equipment and conflicts with the vehicle's electrical system components. This position assumes fundamental knowledge and can fabricate application-specific solutions using materials such as wood, plastics, metal, and fabrics when commercially available solutions do not exist. Some accountabilities for facility productivity and management of labor and supplies budgets is also assumed.

Full Description - MECP Expert Installation Technician

MECP Expert Installation Technician

Duties and Responsibilities

All duties and responsibilities listed in the MECP Skilled Installation Technician Job Description apply to the Expert Installation Technician, plus:

- Acquire, determine, and research solution-based approaches to client and vehicle installation needs that preserve the vehicle's integrity. Recommend and accurately quote these solutions as required.
- Diagnose, repair, and resolve installation-related problems ranging from product failure or incompatibility to undesirable operational conditions such as heat, excess current draw, noise, RF/EMR interference, intermittent faults, or OEM TSBs and recalls.
- Possess a complete understanding of using an RTA, oscilloscope, and polarity test instrument to determine OEM audio system signals required for full-range interface to aftermarket devices.
- Fabricate wood, plastic, and metal brackets/mounts for aftermarket electronics and speakers as needed, including knowledge of the safe and correct steps of preparation and finishing.
- Facilitate a reliable and productive workflow from staff in the installation bay. Demonstrate installation procedures and correctly convey best practices to other technicians when required.
- Assist less experienced team members as needed to troubleshoot or repair installation issues.
- Maintain necessary installation and fabrication supplies to complete installation tasks as scheduled or planned.
- Maintain or oversee the maintenance of shop power and pneumatic tools.

The listed expectations are recommendations only and imply no qualification to work on any particular product or vehicle. Any damages caused by a technician or any missing or misrepresented technical capability, regardless of MECP Certification level, are not the responsibility of MECP or the Certification Systems Technology Company.

MECP Expert Installation Technician Job Description – 2021-2022

Knowledge, Skills, and Ability

All knowledge, skills and abilities listed in the MECP Skilled Installation Technician Job Description apply to the Expert Installation Technician, plus:

- Visual processing ability. Cognitive and analytical thinking ability.
- Knowledge to read and apply OEM-style vehicle wiring schematics, TSB, and safety information (such as supplied by AllData, Mitchell, OEM, etc.) for gasoline, diesel, hybrid gas-electric and fully electric vehicles.
- Knowledge of vehicle data bus and infotainment systems and vehicle applications in which they appear (including CAN-BUS, GM LAN, variations of MOST, D2B, LIN, etc.). Ability to identify inoperable or faulty data bus and infotainment system operation.
- Knowledge of modern automotive ignition systems (Traditional Key/Tumbler, PTS, Intellikey, Wireless Node) and safely interfacing with ignition systems for interrupt or remote starting.
- Knowledge of discrete vehicle circuits and triggers, including low voltage, normally open, normally closed, rest at state (power, ground, other reference), rest at open, etc., and the ability to measure with a DMM or oscilloscope.
- Knowledge to use an oscilloscope for audio, data bus and sensor (such as tach, VSS, etc.) signal identification. Understand the data displayed (including voltage, frequency, and waveform shape) and apply results to accurate initial diagnosis, installation, or troubleshooting.
- Knowledge of how to use a Real Time Analyzer (RTA) for frequency response measurements (sound and electrical signal). Understand the data displayed and apply results to accurate initial diagnosis, installation process, or troubleshooting.
- Knowledge of On-Board Diagnostic (OBD-II) code structures and how to read codes displayed by an OBD-II compliant scan tool. Understand the data displayed to determine if the root cause is installation-related.
- Ability to wire/configure multiple SPDT relays for a specific interface task. Ability to wire/configure a bipolar transistor for low voltage turn-on or triggering. Knowledge of how to wire/configure appropriate values of resistor combinations for a specific voltage divider. Ability to wire/configure multiple silicon diodes to isolate aftermarket components from vehicle circuits or vice-versa.
- In addition to Ohm's Law, Watt's Law, and basic math, the technician should know Kirchhoff's Voltage and Current Laws.
- Ability to determine different types of installation-related vehicle noise/interference, current draw, and charging system problems and systematically identify, isolate, and address issues.
- Ability to diagnose short and open circuit faults, excess parasitic current drain, low/high/no voltage, and state of circuit protection before contacting technical support.
- Knowledge about fabricating wood, plastic, and metal brackets and mounts for aftermarket electronics and speakers as needed, including the safe and correct steps of preparation and finishing.
- Knowledge of table saws, rip fence, cutting blades, and general safety around this equipment. Ability to determine material yields for a given series of panel dimensions from a full sheet.
- Knowledge of routers, inverted routers in a table, router bits, and related equipment. Understanding of router processes for circle cutting, duplicating patterns, and reducing and enlarging shapes.

The listed expectations are recommendations only and imply no qualification to work on any particular product or vehicle. Any damages caused by a technician or any missing or misrepresented technical capability, regardless of MECP Certification level, are not the responsibility of MECP or the Certification Systems Technology Company.

MECP Expert Installation Technician Job Description – 2021-2022

- Knowledge of particle separation and fine-dust vacuum systems for wood and plastics used in fabrication workshops.
- Knowledge of equipment and shielding gasses used in Metal Inert Gas (MIG) and Tungsten Inert Gas (TIG) welding styles. Knowledge of related welding safety equipment.
- Knowledge of OSHA related chemical storage requirements and safety procedures for polyester resins and fillers, adhesives, surface finishes, and cleaners/solvents used in custom installation procedures.
- Skill in the use of a personal computer, internet browser, and various technical support resources. Ability to execute computer-based firmware updates to a vehicle component via USB, Bluetooth, SD card, WiFi, or other methods.
- Knowledge of acoustics and vehicle electrical systems that applies to multi-speaker audio systems to reproduce a 20Hz-20KHz range of low distortion, dynamic audio playback, which includes (but is not limited to) equalization methods, crossovers and overall mobile audio system design philosophies.
- Knowledge of in-vehicle frequency response, impedance, and power handling graphs common in subwoofer enclosure design programs. Ability to select a computer-based subwoofer enclosure design that performs to given criteria. Ability to match subwoofer with appropriately powered amplification based on RMS power ratings or CTA-2006/CTA-2031 specifications.
- Ability to establish priorities and work without supervision or function as a supervisor to other technicians with minimal oversight from ownership or leadership.

Credentials and Experience

- Most employers expect two or more years of professional experience.
- The Candidate must be MECP Skilled Installation Certified before becoming eligible for MECP Expert Installation Technician certification.
- The Candidate should have extensive and varied experiences with multiple product categories of aftermarket 12v products to provide well-rounded professional work experience.
- The Candidate should possess a current MECP Expert Installation Technician certification.
- The Candidate should have personal experiences with their own installations in addition to professional work experience.
- Training at an installation-related school or program is a plus.

Special Requirements

- Willing to work weekends, holidays, and shift overtime as required by the employer.
- In most states or provinces, the individual will be required to supply their essential installation tools.

The listed expectations are recommendations only and imply no qualification to work on any particular product or vehicle. Any damages caused by a technician or any missing or misrepresented technical capability, regardless of MECP Certification level, are not the responsibility of MECP or the Certification Systems Technology Company.

MECP Expert Installation Technician Job Description – 2021-2022

Notes about MECP Expert Installation Technician Certification

- MECP Expert Installation Technician level certification is intended for individuals with two or more years of hands-on work experience installing aftermarket vehicle electronics.
- These individuals should function in a working environment with no direct supervision of the work-related tasks and daily communication of the day's work-related goals.
- The learning content contains ten key topic areas and related questions and a certification exam with 100 total questions.
- Once achieved, the certification is valid for the remainder of the technician's membership. Membership does not equate to certification; only successful completion of the learning content and the subsequent certification exam results in certification. Membership must be renewed, and a shirt review exam must be completed to maintain certification.
- MECP certified technicians are granted a digital certificate with an alphanumeric license number that can be validated at any time by contacting mecp@mecp.com or on www.mecp.com as a free service to potential employers or clients.
- Prospective employers are encouraged to place any candidates with MECP Apprentice Installation Technician certification but limited professional experience in a supervised work environment for at least 60 days to ensure the best employee development and retention.

The listed expectations are recommendations only and imply no qualification to work on any particular product or vehicle. Any damages caused by a technician or any missing or misrepresented technical capability, regardless of MECP Certification level, are not the responsibility of MECP or the Certification Systems Technology Company.